June 12, 1956 G. N. STRACKE, JR 2,750,136

KITE

Filed April 8, 1955

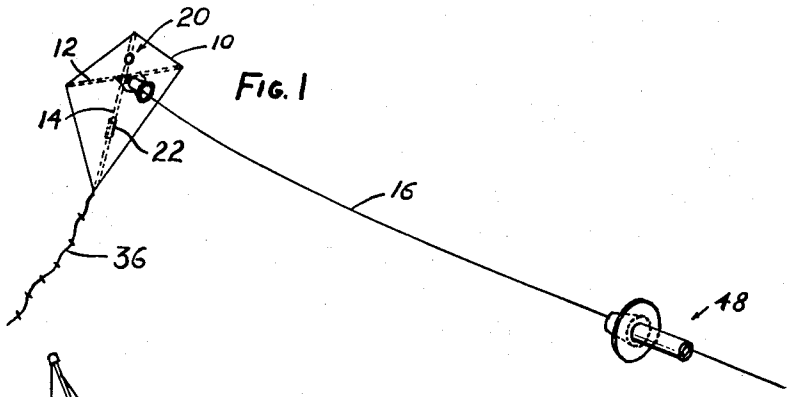


FIG. 1

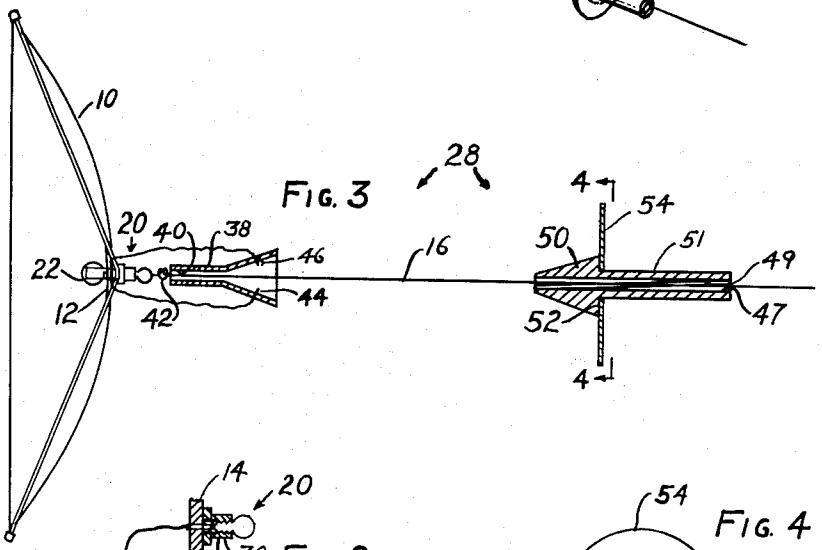


FIG. 3

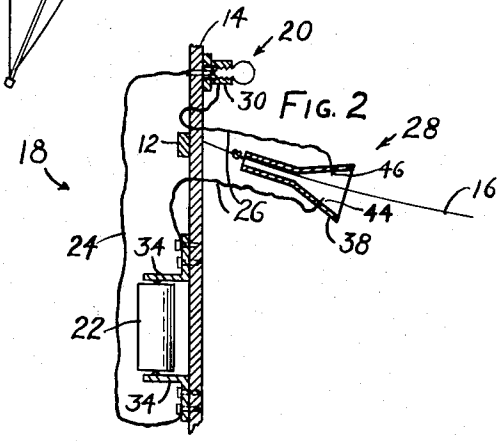


FIG. 2

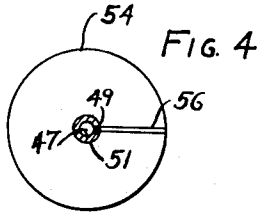


FIG. 4

INVENTOR
GUSTAV N. STRACKE JR.
BY
Eldon H. Luther
ATTORNEY

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KITE

Gustav N. Stracke, Jr., Huntington Station, N. Y.

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This invention relates to kites and has particular relation to a novel kite for use as an amusement device for children and having a light mounted thereon which may be illuminated by sending a follower device up the kite cord.

Briefly stated the invention comprises a kite which may be any of a variety of forms of conventional construction and which has mounted thereon an electrical circuit which includes a light and a battery. A normally open switch is connected into this circuit and controls illumination of the light with this switch having an actuator in the form of a follower that is constructed and arranged to be wind propelled up the kite cord and is effective at a predetermined location thereon to close the switch thereby completing the circuit and lighting the light.

It is an object of this invention to provide an amusement device in the form of a kite which has a light mounted thereon with the illumination of the light being controllable by means of a follower which may be sent up the kite cord.

It is a further object of this invention to provide such an amusement device which is economical to manufacture and yet is highly serviceable and satisfactory in operation.

Other and further objects of the invention will become apparent to those skilled in the art as the description proceeds.

With the aforementioned objects in view, the invention comprises an arrangement, construction and combination of the elements of the inventive organization in such a manner as to attain the results desired as hereinafter more particularly set forth in the following detailed description of an illustrative embodiment, said embodiment being shown by the accompanying drawing wherein

Fig. 1 is a perspective view of the novel kite of the present invention while in flight with the actuator or contactor of the switch mounted on the kite cord and propelled part way along the cord toward the kite.

Fig. 2 is a vertical sectional view taken generally through the upright frame member of the kite and showing the connection of the battery and bulb to this frame member as well as showing a diagrammatic representation of the electrical circuit which interconnects the battery and bulb and by means of which the bulb is illuminated.

Fig. 3 is a top view with the switch means which forms a part of the electrical circuit shown in detail and in section.

Fig. 4 is a sectional view taken along line 4—4 of Fig. 3.

Referring now to the drawings, wherein like reference characters are used throughout to designate like elements, the illustrative organization shown therein comprises a kite **10** of the conventional diamond configuration and having longitudinal and cross frame members **12** and **14**, respectively, over which paper or the like is disposed in the usual fashion. Extending downwardly from kite **10** is the kite cord **16** which has one end secured to longitudinal frame member **14** with the other end being held by the operator of the kite or otherwise anchored.

Mounted upon the kite **10** is an electrical circuit designated generally **18** and comprising the bulb **20** and battery **22**, which may be an ordinary 1.5 volt flashlight battery, interconnected by means of conductors **24** and **26** with conductor **26** having the normally open switch means **28**

connected in series therewith. Bulb **20** is received within a conventional socket **30** which is mounted upon longitudinal frame member **14**. The battery is also mounted upon longitudinal frame member **14** by means of the metallic clips **34** clamped or otherwise secured to this frame member and frictionally embracing the battery between the laterally extending ears forming a portion of these clamps with conductor **24** being connected to one of these clips and conductor **26** being connected to the other. In order to increase the stability of the kite during flight and decrease the amount of kite tail **36** that is required the battery is preferably located well below the center of gravity of the kite and in the vertical plane containing the axis of the kite.

Energization and de-energization of circuit **18** is controlled by the normally open switch means **28** which includes a stationary member **38** mounted on kite cord **16** and prevented from moving upward along the cord by stop member **42** which may take the form of a knot provided in the cord. The kite cord extends through the axial bore **40** provided in member **38** and the member is of sufficient length so that it will remain generally aligned with the cord and is thus prevented from being excessively cocked or tilted with respect thereto. Member **38** is fabricated of a material that is an electric insulator and the outer end of this member or the end remote from the kite is flared outwardly providing a conical inner surface extending a short distance inwardly from which and preferably on diametrically opposite sides of which are the spaced contacts **44** and **46** in series with conductor **26** with these contacts, in the illustrative organization, conveniently taking the form of the ends of the two portions of this conductor that is associated with switch means **28** and with these ends extending through and being secured in the wall of member **38**.

Electrical bridging of the spaced contacts **44** and **46** and accordingly closing of the switch means **20** and completion of the electrical circuit is accomplished by means of the follower or contactor **48** which forms a part of switch means **20** and which is preferably fabricated of a light metal such as aluminum and provided with a conically tapered head portion **50** from which extends shank portion **51** of reduced diameter forming shoulder **52** at the junction of the head and shank portions. Extending through the follower **48** is the bore **47** through which kite cord **16** extends when the follower is disposed on the cord and to facilitate positioning of the follower on the cord and yet prevent it from accidentally falling off during its travel up the cord slot **49** extends through the wall of the follower throughout its length with this slot being askew or diagonally of the axis of bore **47**.

Follower **48** is positioned on the kite cord by passing the cord laterally through diagonal slot **49** and once it is on the cord it may be propelled upwardly therealong by a member which will be caught by the wind. This propelling member may take any of a wide variety of forms and in the illustrative preferred embodiment it comprises a disk **54** of relatively stiff material such as stiff paper or the like that is positioned over shank **51** and in engagement with shoulder **52** thereby becoming a part of follower **48**. Radial slot **56** is provided in disk **54** and in communication with slot **49** in the follower **48** thereby permitting the mounting of follower **48** on the kite cord and the disk is of sufficient area and is sufficiently rigid to propel the follower up the kite cord as a result of wind impingement thereagainst during flight of the kite. The outer surface of the conical head **50** is complementary to the inner conical surface of the outwardly flared portion of member **38** and is received within this outwardly flared portion when propelled by the wind up kite cord **16** to member **38** thereby bridging the spaced contacts **44** and **46** and causing light **20** to be illuminated. In order that the follower may

readily move along kite cord 16 it is preferably of a length several times its diameter with this also maintaining the follower generally parallel with the kite cord and assuring that the head portion 50 will be received within the outwardly flared portion of member 38. By forming the head of follower 48 conically and providing a conical surface on member 38 which receives this head these members will be self-aligning and the fact that they are initially somewhat out of alignment as the follower approaches member 38 will make no difference.

While this switch means has proved highly satisfactory other similar means may be equally well employed with the only requirement being that the switch is actuated by the follower which is propelled up the kite cord and that the construction be as economical as possible without sacrifice of reliability.

In operating the novel kite of this invention, after kite 10 is airborne and it is desired to light light 20, follower 48 is positioned on kite cord 16 by passing the cord through the radial slots 56 and 49. The follower is then propelled up kite cord 16 by means of the wind striking the under side of disk 54 and upon reaching member 38 conical head portion 50 is received within the outwardly flared head portion of this member bridging the contacts 44 and 46 and causing light 20 to be illuminated. Due to variations in the wind velocity contactor 48 will continuously fall away from and be propelled back to its bridging portion with relation to the spaced contacts causing light 20 to continuously go off and on.

The kite of this invention has been found to be of great interest and amusement to children who have been present when it has been operated in the evening, with the flickering light, which is activated by sending a follower up the kite cord, proving a great novelty to all those present.

While I have illustrated and described a preferred embodiment of my novel organization it is to be understood that such is merely illustrative and not restrictive and that variations and modifications may be made therein without departing from the spirit and scope of the invention. I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes as fall within the purview of my invention.

What is claimed is:

1. A kite adapted to have a kite cord secured thereto, an electric light attached to said knite and an electric circuit including a source of electrical potential for illuminating the same, means operative to make and break said circuit including a member adapted to be wind propelled up the kite cord and effective to cause actuation of said means.

2. A kite adapted to have a kite cord secured thereto, an electric light attached to said kite and an electric circuit including a source of electrical potential for illuminating the same, means operative to make and break said circuit including a member adapted to be wind propelled up the kite cord and effective to cause actuation of said means, said member being constructed and arranged to move into and fall from its actuating position in response to variations in wind velocity thereby continuously making and breaking said circuit in response to such variations.

3. An amusement device comprising a kite adapted to have a kite cord attached thereto, an electric circuit effectively supported by said kite and including a source of electrical potential and an electric light, means adjacent said kite operative to make and break said circuit, said means including a member adapted to be wind propelled up the kite cord effective at a location adjacent said kite to actuate said means.

4. The organization of claim 3 wherein the source of electrical potential is mounted on the kite below the center of gravity thereof and generally in the vertical plane containing the center of gravity of the kite.

5. An amusement device comprising a kite adapted to have a kite cord attached thereto, a normally open electric circuit effectively supported by said kite and including a source of electrical potential and an electric light, means adapted to be wind propelled up the kite cord effective to complete said circuit and thereby light said light.

6. An amusement device comprising a kite adapted to have a kite cord attached thereto, a normally open electric circuit mounted on said kite and including a source of electrical potential and an electric light, means adapted to be wind propelled up the kite cord effective to complete said circuit, said means being constructed and arranged to move to and fall from its circuit closing position in response to changes in wind velocity.

7. In a device of the type described the combination of a kite adapted to have a kite cord attached thereto, a bulb and a battery mounted on said kite and connected into an electric circuit whereby the battery is effective to illumination of said light, said switch means normally occupying an open position and being closed by a follower constructed and arranged to be wind propelled up the cord of the kite during flight of the kite.

8. The organization of claim 7 wherein the battery is mounted on the kite below the center of gravity thereof and generally in the vertical plane containing the center of gravity of the kite when the kite is in its normal attitude of flight.

9. In combination a kite having a kite cord attached thereto, an electric light mounted on said kite, means effective to light said light including a source of electrical energy and a switch means, said switch means being disposed on the kite cord adjacent said kite and including an actuating means effective to be wind propelled up the kite cord during flight of the latter.

10. In a device of the type described the combination of a kite having a kite attached thereto, an electric light and a battery secured to said kite and connected into a normally open electric circuit having a pair of spaced contacts the bridging of which would complete said circuit and illuminate said light, means effective to electrically bridge said contacts comprising a follower constructed and arranged to be propelled by wind force up the kite cord during flight of said kite.

11. The organization of claim 10 wherein the spaced contacts are mounted on an electric insulator disposed on the kite cord.

12. The organization of claim 11 including a stop provided on the kite cord effective to retain the electrical insulator a predetermined distance from said kite.

13. The organization of claim 10 wherein the said follower comprises an elongated member having a bore extending longitudinally therethrough and a slot extending through the wall thereof throughout the length of the bore and at an angle with respect to the axis of the bore.

14. The organization of claim 13 wherein said follower includes a disk of relatively thin rigid material disposed in a plane generally normal to the axis of said bore.

15. In a device of the type described the combination of a kite having a kite cord attached thereto, an electric light and a battery secured to said kite and connected into a normally open electric circuit having a pair of spaced contacts which are secured to a member disposed on the kite cord so as to be electrically insulated from each other and the bridging of which would complete said circuit and illuminate said light, a metallic member adapted to be wind propelled up said kite cord and effective to electrically bridge said contacts, said member mounted on said kite cord and said metallic member having complementary conical surfaces that are internested when said member is in its bridging position with said contacts being associated with said surface of the insulator.

References Cited in the file of this patent

FOREIGN PATENTS

320,411 Germany ---------- Apr. 21, 1920